

## CLAIMS

1. Method for generating a substantially uninterrupted connection of the peripheral wall portions of two adjacent tubular segments each provided with flanges having holes therein, of a tower, in particular for a wind energy turbine, wherein the method comprises the steps of
  - arranging a first tubular segment (18) and a second tubular segment (20) with said flanges (26,28) thereof facing each other and said holes (34,36) in said flanges (26,28) aligned with each other,
  - connecting said tubular segments (18,20) by prefastening screws (38) extending through said aligned holes (34,36) in said flanges (26,28),
  - forming into the side (50) of the tubular segments (18,20) opposite to the flanges (26,28) a notch (52) of a predetermined width at least at a location of said contacting flanges (26,28) where a gap (48) having a width greater than a minimum width exists,
  - inserting into said notch (52) at least one insert part (60) having a width substantially equal to the width of said notch (52), and
  - completely fastening said screws (38) connecting said flanges (26,28) of said tubular segments (18,20) providing a substantially uninterrupted connection of said peripheral wall portions (22,24) of said tubular segments (18,20) through said at least one insert part (60).
2. Method for generating a substantially uninterrupted connection of the peripheral wall portions of two adjacent tubular segments of a tower, in particular of a wind energy turbine, wherein the tubular segments are provided with flanges having holes therein and fastened screws are extending through the holes of the contacting flanges of the tubular segments, the method comprising the following steps

- 14 -

- releasing the screws of said contacting flanges (26,28) of said tubular segments (18,20),
  - forming into the side of the tubular segments (18,20) opposite to the flanges (26,28) a notch (52) of a predetermined width at least at one location of said contacting flanges (26,28) where a gap (48) having a width greater than a minimum width exists,
  - inserting into said notch (52) at least one insert part (60) having a width substantially equal to the width of said notch (52), and
  - completely fastening said screws (38) connecting said flanges (26,28) of said tubular segments (18,20) providing a substantially uninterrupted connection of said peripheral wall portions (22,24) of said tubular segments (18,20) through said at least one insert part (60).
3. Method according to claim 1 or 2, wherein said notch (52) is formed such that said notch (52) partially extends in both of said tubular segments (18,20).
  4. Method according to any one of claims 1 to 3, wherein said notch (52) comprises a depth which is substantially equal to a thickness of said peripheral wall portions (22,24) of said tubular segments (18,20).
  5. Method according to claim 4, wherein said tubular segments (18,20) have peripheral wall portions (22,24) of different thicknesses and wherein the depth of said notch (52) is substantially equal to the smaller tubular segment wall portion thickness.
  6. Method according to any one of claims 1 to 5, wherein said notch (52) is formed such that said notch (52) extends straightly and oriented secantially with respect to the extension of said peripheral wall portions (22,24) of said tubular segments (18,20).

- 15 -

7. Method according to any one of claims 1 to 6, wherein forming said notch (52) is performed by means of a milling cutter tool (82).
8. Method according to any one of claims 1 to 7, wherein forming said notch (52) is performed by a cutting device (64) having a frame (70) and a cutting tool (82) mounted to said frame (70) and slidable along a guidance (78) of said frame (70), wherein said frame (70) is fixedly arranged with respect to at least one of said tubular segments (18,20) by fastening elements (66,68) and wherein said cutting tool (82) is aligned for cutting a notch (52) having the desired orientation with respect to said tubular segments (18,20).
9. Method according to claim 8, wherein said frame (70) when fixedly arranged with respect to said tubular segments (18,20) is adjusted with respect to said fastening elements (66,68) for aligning said cutting tool (82) with respect to said tubular segments (18,20).
10. Method according to claim 8 or 9, wherein said fastening elements (66,68) are selected from the group comprising tension belt arranged around at least one of said tubular segments (18,20) for mechanically mounting said frame (70) to at least one of said tubular segments (18,20), and solenoid elements (66,68) for magnetically mounting said frame (70) to at least one of said tubular segments (18,20).
11. Method according to any one of claims 8 to 10, wherein the frame (70) is suspended at at least one wire (72), chain or the like element fixed on top of the tower (10).